

ABSTRACT OF THE DISCLOSURE

A circuit and method are presented for signal processing and routing of digital voice telephony signals, using a specialized high-density integrated circuit voice processor. The voice processor performs several essential functions required for telephony processing, including echo cancellation, protocol conversion, and dynamic range compression/expansion. These functions are traditionally performed by multiple circuits or modules. By combining these capabilities in a single device, power and circuit board area requirements are reduced. The embodiment of the circuit and method disclosed herein include novel implementations of a time-slot interchange circuit and a telephony signaling circuit. Both of these circuits are designed to minimize demands on the signal processing engines incorporated within the voice processor, and account for very little of the on-chip circuitry.